

STATE OF CALIFORNIA

Department of Transportation Specification

Metallic Gold Finish Paint Waterborne Acrylic Latex Vehicle (Formula PWB-170B)

SCOPE

This specification covers a pre-mixed waterborne paint formulated for use as a finish coat on properly prepared primed metal surfaces complying with *California Department of Transportation Standard Specifications Section 59*. This coating is intended for spray application on top of a suitable intermediate coat. Limited application can be made by brushing and rolling.

REQUIREMENTS

General:

This specification is intended to specify paint that will meet service requirements for bridge construction and maintenance. All properties listed shall be maintained for a minimum of one year after acceptance. If the vendor is making this paint for the first time, the Transportation Laboratory in Sacramento must be consulted.

Materials:

The raw materials for use in the paint formula shall conform to the specifications designated or paint material code number herein after specified.

QUALITY ASSURANCE

The inspection, sampling, testing, packaging and marking of the coating shall comply with State of California Specification 8010-XXX-99, *Coatings, Protective, Quality Assurance Requirements*.

Unless otherwise permitted by the Maintenance Engineer, paint shall be sampled at the place of manufacture and application will not be permitted until the paint has been approved by the Maintenance Engineer. Raw materials and copies of batch records used in the manufacture of the paint shall be submitted as requested by the Maintenance Engineer.

All tests will be conducted in accordance with the latest test methods of the American Society for Testing and Materials, Federal Test Method Standard No. 141, and methods in use by the Transportation Laboratory.

Patents:

The contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work, and agrees to indemnify and save harmless the State of California, and its duly authorize

representatives from all suits at law or action of every nature for, or on account of, the use of any patented materials, equipment, devices, or processes.

Composition

The paint shall be mixed in the following proportions:

Vehicle

<u>Component</u>		<u>(lbs./100 gallons)</u>	<u>Weight Percent</u>
Acrylic Latex	(1)	750.0	76.41
Preservative	(2)	0.4	0.04
Defoamer	(3)	3.0	0.31
: Premix 4-4b			
: Thickener (Acrysol RM-8W)	(4)	1.1	0.11
: 2-(2-Methoxyethoxy)-Ethanol	(4a)	42.0	4.28
: Thickner (Acrysol RM-2020)	(4b)	1.1	0.11
Coalescent solvent(Texanol)	(5)	42.0	4.28
Ammonium Hydroxide (28%)	(6)	4.0	0.45

Under low shear slowly add:

Pigment

Gold Pigment	(7)	138	14.0
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Mix thoroughly being careful not to incorporate air into paint.

Avoid using high shear, this will cause fragmentation of the pigment resulting in unacceptable appearance of the paint.

Characteristics of Mixed Paint

Density, grams per milliliter, ASTM D1475	1.10 - 1.14
Nonvolatile Content, percent, ASTM D2369	45.0 – 47.5
Pigment by weight of paint, percent, ASTM D3723	13.9-14.1
Consistency, Stormer Viscometer, ASTM D562, grams equivalent KU	200g-225g 77-81
Viscosity, centipoise, ASTM D2196, Method A 50 rpm, #3 spindle	1350-1550
Fineness of Grind, Hegman, ASTM D1210	6 min.
pH	8-10
Drying Time at 77°F, 50% relative humidity, 6 mil wet film, ASTM D 1640	
set to touch, hours	1 max.
dry through, hours	2 max.

Color to match color chip PWB 170B on file at the Transportation Laboratory.

- (1) Maincote® HG-54D (Rohm and Haas)
- (2) Proxel® GXL (ICI Americas)
- (3) Foamaster® AP (Henkel)
- (4) Acrysol® RM-8W (Rohm and Haas)
- (4a) 2-(2methoxyethoxy)ethanol (methyl carbitol)
- (4b) Acrysol® RM-2020 NPR (Rohm and Haas)
- (5) 2,2,4-Trimethylpentanediol-1,3-monoisobutyrate (Texanol)
- (6) Ammonium Hydroxide (28%)
- (7) Afflair® 9307 SW Star Gold Pigment, (EM Science)